

REPLACEMENT
AS A RESULT OF
REVERSE
TRANSCRIPTION
OF VECTOR RNA

IRRELEVANT SEQUENCE
REPLACEMENT
MUTATION OF
ENHANCER AND
PROMOTER

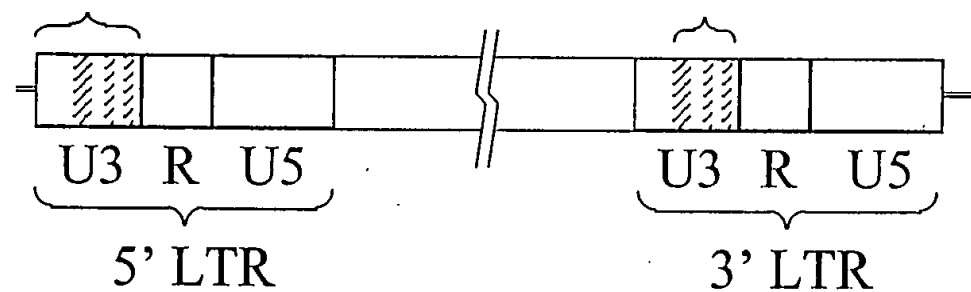


Figure 1

03046640-032450

Wild type 3' LTR sequence:

1 GAACAGATGG AACAGCTGAA TATGGGCCAA ACAGGATATC TGTGG TAAGC
51 AGTTCC TGCC CCGGCTCAGG GCCAAGAACA GATGGAACAG CTGAATATGG
101 GCCAACAGG ATATCTGTGG TAAGCAGTTC CTGCCCCGGC TCAGGGCCAA
151 GAACAGATGG TCCCCAGATG CGGTCCAGCC CTCAGCAGTT TCTAGAGAAC
201 CATCAGATGT TTCCAGGGTG CCCCAGGAC CTGAAATGAC CCTGTGCCTT
251 ATTTGAACTA ACCAATCAGT TCGCTTCTCG CTTCGTTCG CGCGCTTCTG
301 CTCCCCGAGC TCAATAAAA

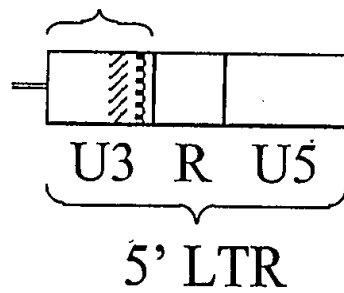
Corresponding modified 3' LTR sequence from pENZ1
(modified sequences in bold italics):

1 **ACGCTTGATC** **CGGCTACCTG** **CCCATTGAC** **CACCAAGCGA** **AACATCGCAT**
51 **CGAGCGAGCA** **CGTACTCGGA** **TGGAAGCCGG** **TCTTGTCGAT** **CAGGATGATC**
101 **TGGACGAAGA** **GCATCAGGGG** **CTCGCGCCAG** **CCGAACTGTT** **CGCCAGGCTC**
151 **AAGGCGCGCA** **TGCCCCAGCG** **CGAGGATCTC** **GTCTGTGACTT** TCTAGAGAAC
201 CATCAGATGT TTCCAGGGTG CCCCAGGAC CTGAAATGAC CCTGTGCCTT
251 ATTTGAACTA ACCGGTCAGT TCGCTTCTCG CTTCGTTCG CGCGCTTCTG
301 CTCCCCGAGC **TCAGCTGCG**

Figure 2

03046810.032492

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IRRELEVANT
SEQUENCE
REPLACEMENT
MUTATION OF
ENHANCER

H2A614 STEM LOOP
REPLACEMENT
MUTATION OF
PROMOTER

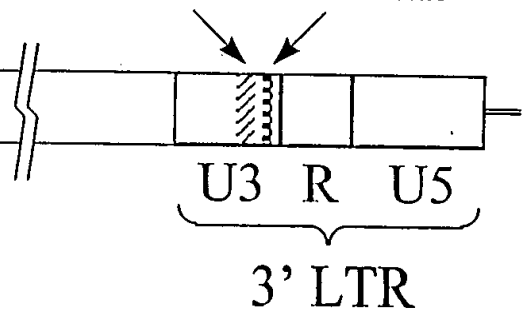


Figure 3

00016340.032493

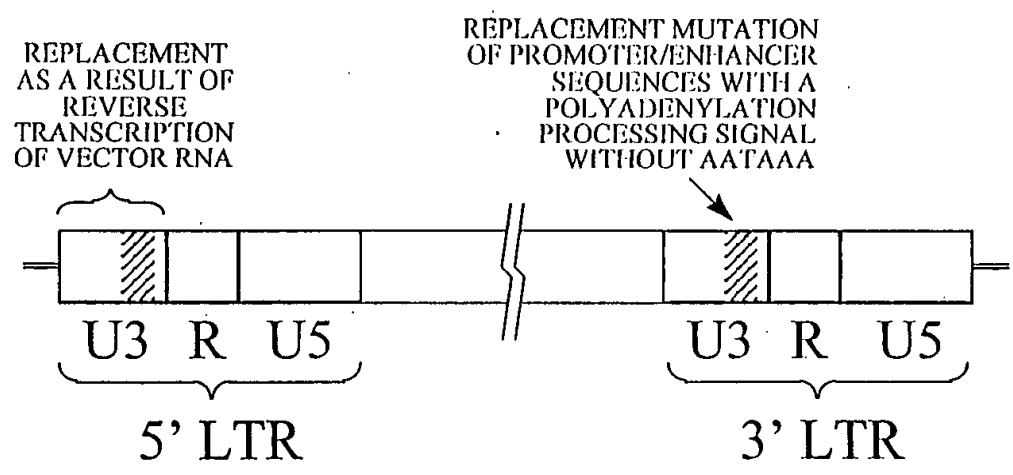


Figure 4

001220 01221000

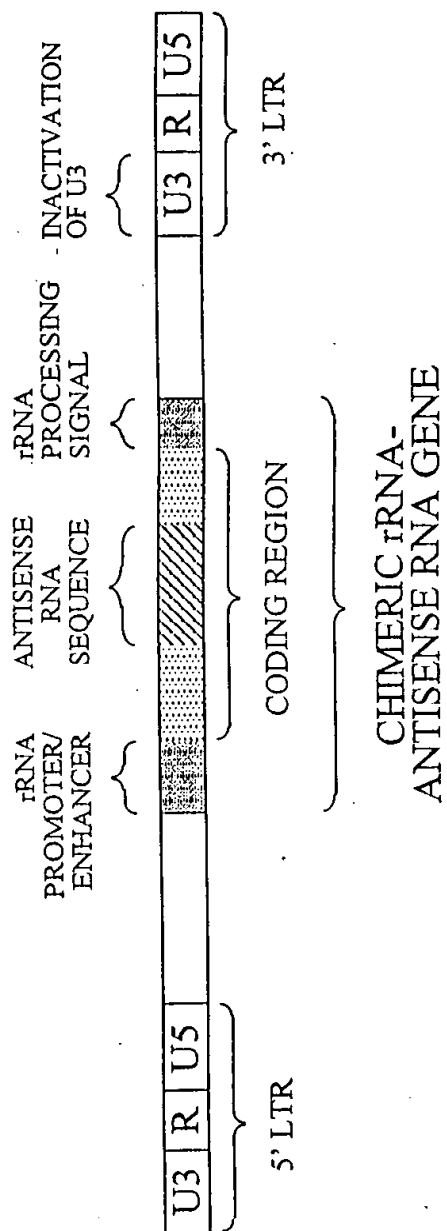


Figure 5

954250.0184060

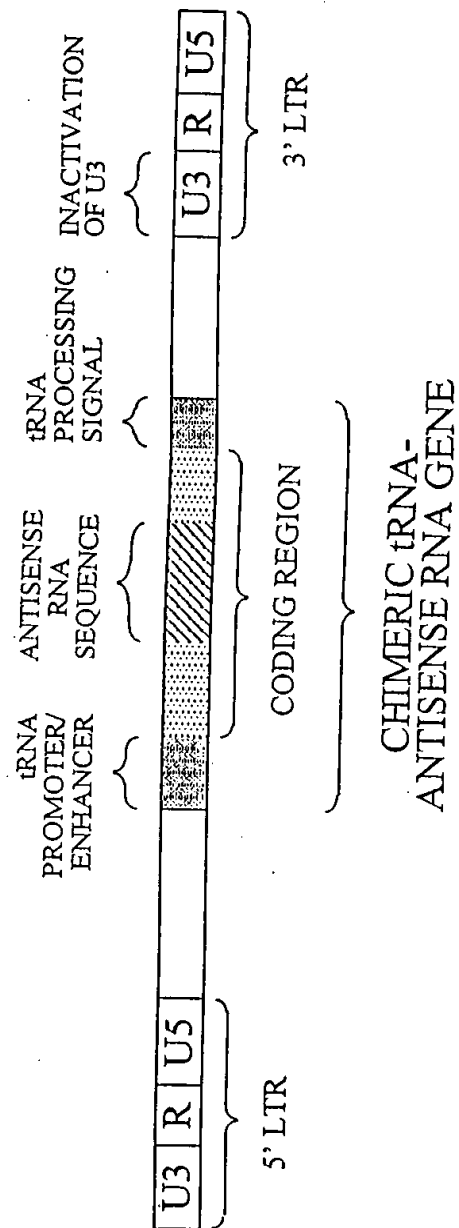


Figure 6

04391000

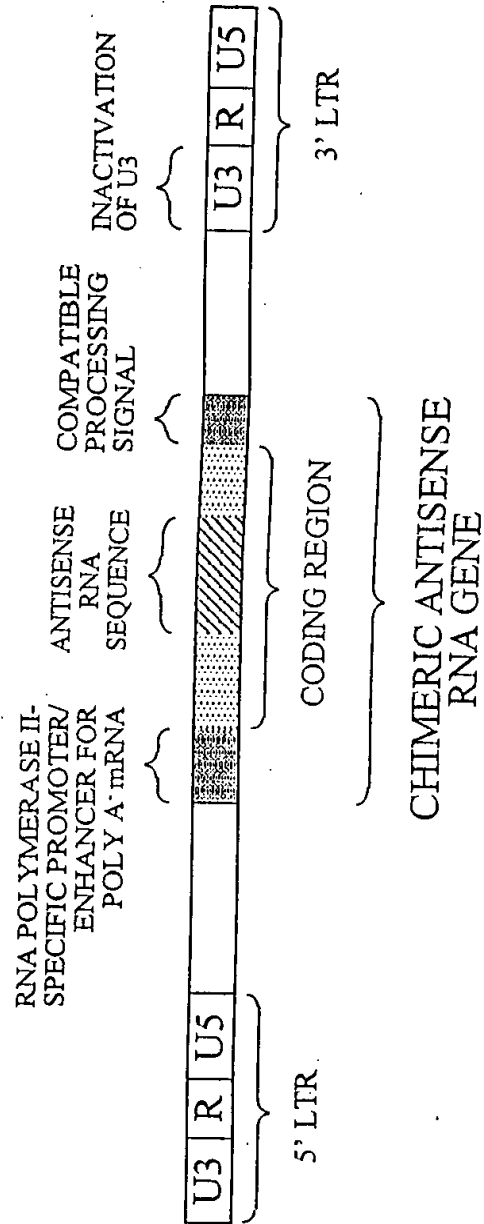


Figure 7

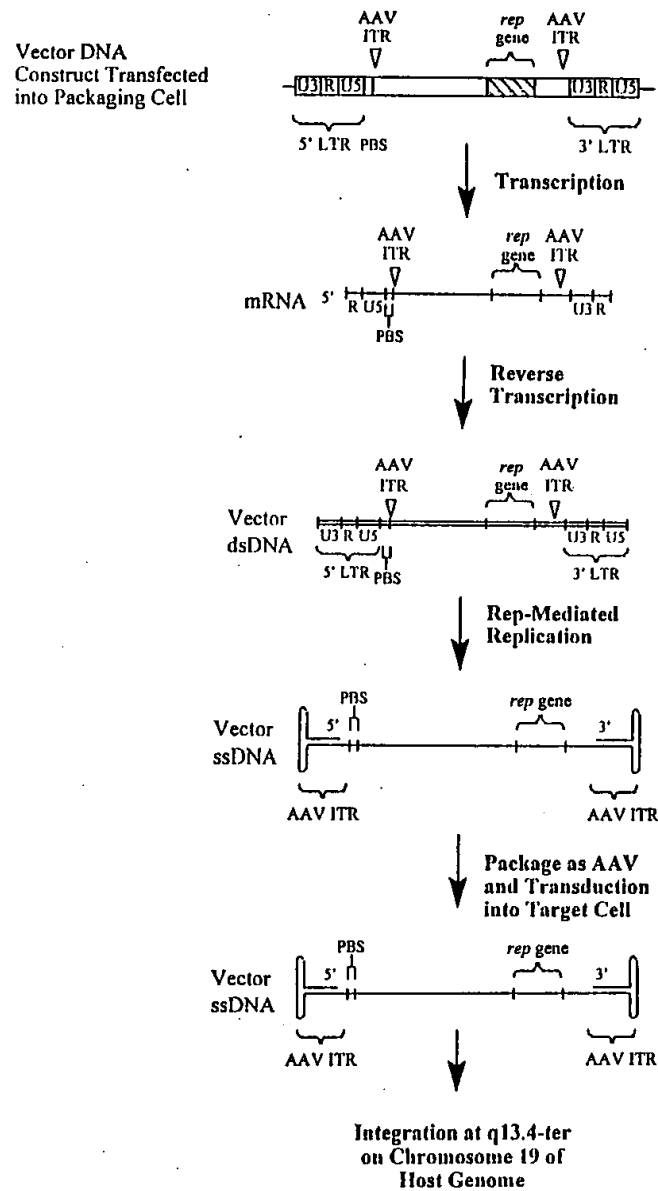


Figure 8

00046640.032493

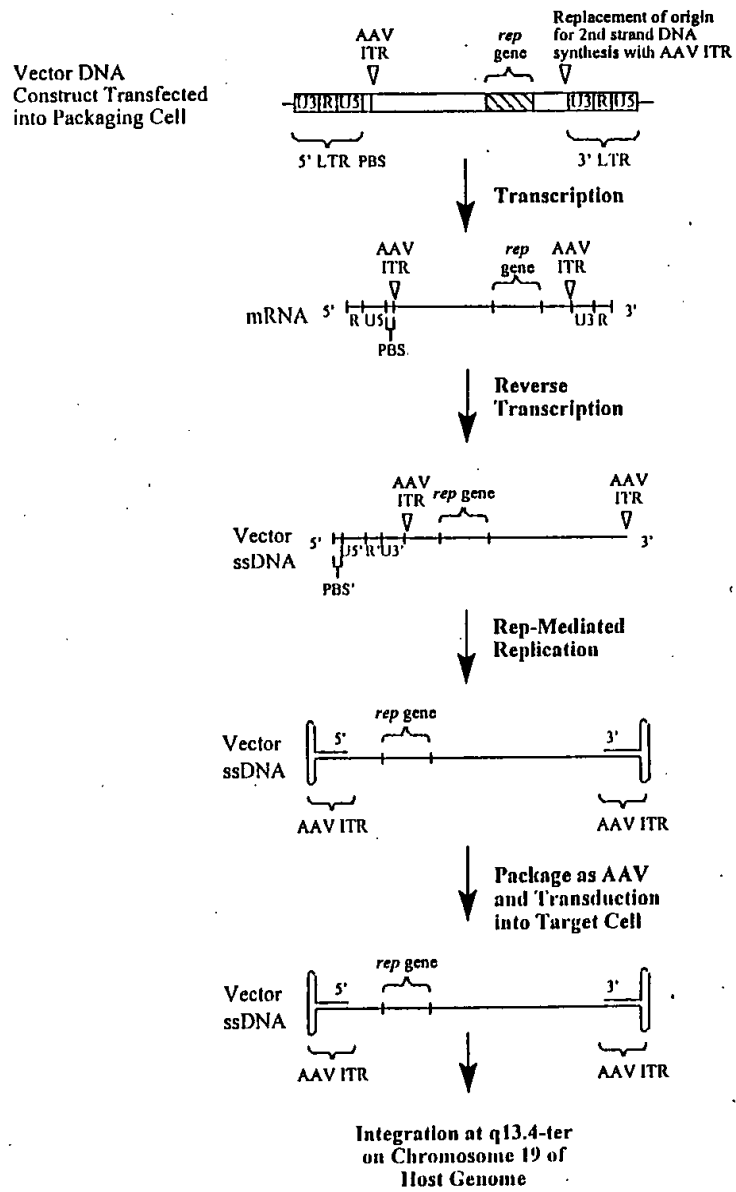


Figure 9

Vector DNA Construct
Transfected into
Packaging Cell

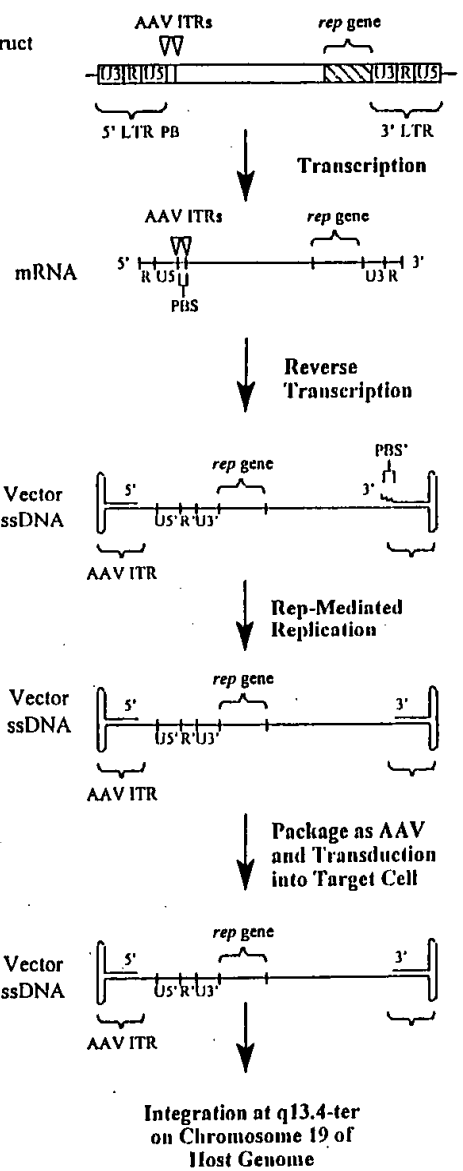


Figure 10

030161010 030161010

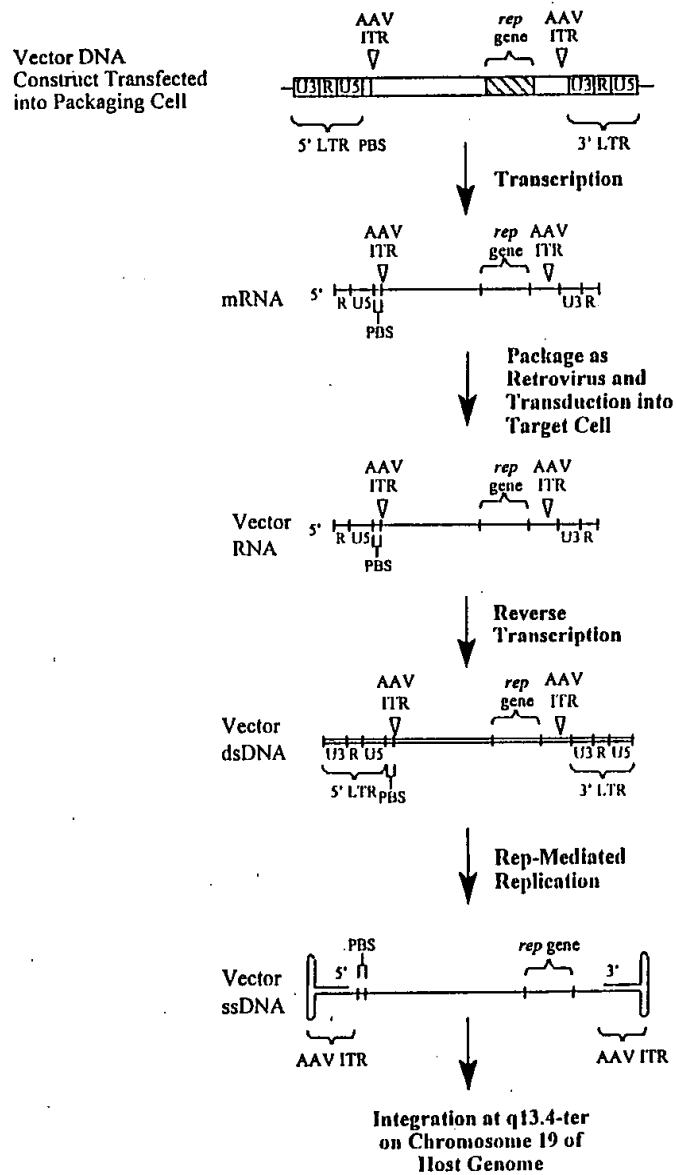


Figure 11

Vector DNA
Construct Transfected
into Packaging Cell

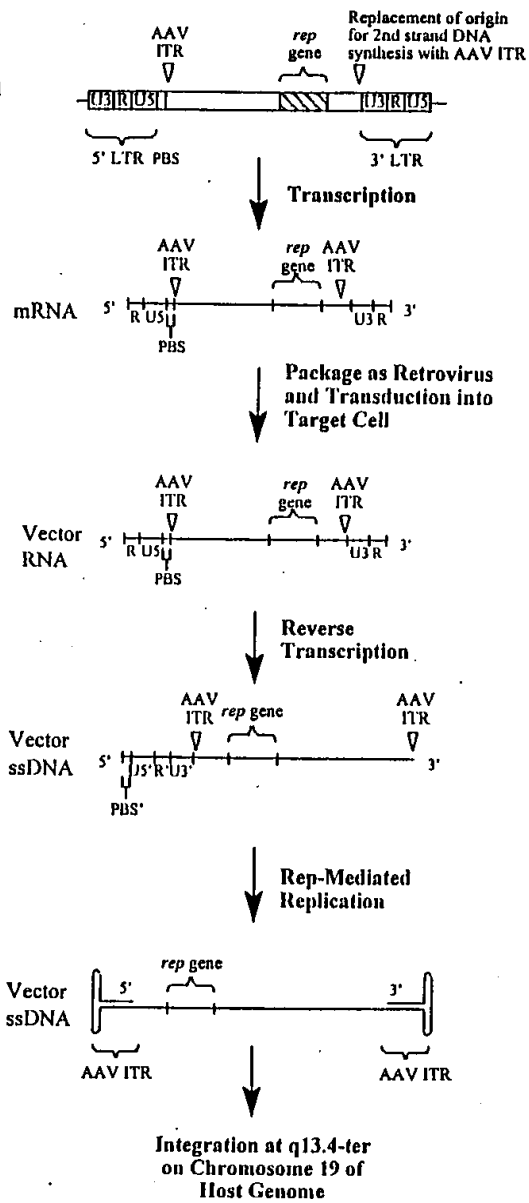
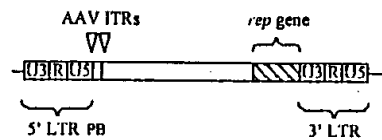
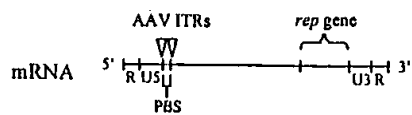


Figure 12

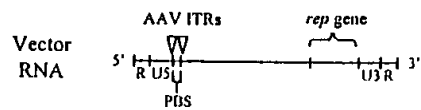
Vector DNA Construct
Transfected into
Packaging Cell



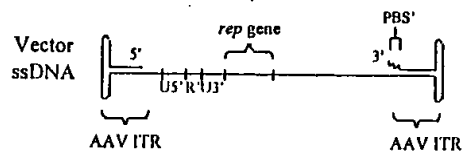
Transcription



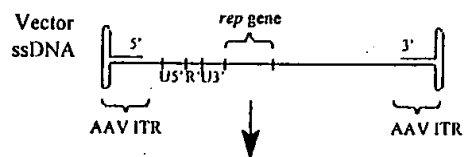
Package as Retrovirus
and Transduction into
Target Cell



Reverse
Transcription



Rep-Mediated
Replication



Integration at q13.4-ter
on Chromosome 19 of
Host Genome

Figure 13